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ABSTRACT

The Graduate Information Survey instrument was designed to gather a variety of biographic and demographic data, as well as data on the students' college experiences, career plans, and attitudes. Data are presented on the characteristics of 1972 graduates from public and private universities. Seventeen four-year colleges and universities provided lists of 1972 baccalaureate degree recipients. From these lists a stratified random sample of 1588 graduates was drawn; stratification involved selecting a representative sample of nonresident students appropriate to individual institutional enrollments. Approximately 48 percent of the questionnaires were returned and usable. Statistical data are provided: survey respondents by major, age, and sex; factors influencing decisions to attend college; time for degree completion; transfers; learning options; occupational aspirations; relationships between educational program and employment. The vast majority of graduates believe their most important objective in going to college was to continue to learn; the second, to satisfy job requirements. More than 50 percent felt they could not yet judge whether their undergraduate program prepared them for employment. (LBH)

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Council on Higher Education
State of Washington

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GRADUATE INFORMATION SURVEY

The Experiences, Plans and Attitudes of Some Baccalaureate Graduates of Washington's Colleges and Universities, 1972

MAY, 1974

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Introduction

The "Graduate Information Survey" instrument was designed to gather a variety of biographic and demographic data, as well as data on the students' college experiences, career plans and attitudes. This report presents data on the characteristics of persons who received their bachelor's degree from a public or private university in Washington in 1972. It is one of a series of student characteristics surveys undertaken by the Council on Higher Education. Although the data are likely to be of greatest use in the analysis and understanding of students and their characteristics, they may also provide input to the Council's long-range planning process and to the institutional process of self-study and planning.

Seventeen four-year colleges and universities in Washington provided lists of 1972 baccalaureate degree recipients. From these lists a stratified random sample of 1,588 graduates was drawn; stratification involved selecting a representative sample of nonresident students appropriate to individual institutional enrollments. Usable completed questionnaires were returned by 760 graduates, or approximately 48 percent of the original sample.

Characteristics of Respondents

Table 1 compares, by major, survey respondents to all baccalaureate graduates. Some differences can be seen, particularly in the area of Education. Education majors appear to have responded to the survey in numbers greater in proportion than Education graduates; to a lesser degree the reverse seems to be true in the areas of Business and Management, Psychology, and the Social Sciences. These differences should be taken into account when interpreting the data that follow.

TABLE 1	Survey Respondents by Major	All Persons Receiving a Bachelor's Degree, 1971-1972
Agriculture & Natural Resources	2%	2%
Arts & Letters	10%	12%
Biological Sciences	4%	5%
Business & Management	16%	13%
Communications	1%	2%
Education	23%	15%
Engineering & Architecture	7%	7%
Health Professions	4%	5%
Home Economics	1%	2%
Interdisciplinary Studies	4%	4%
Mathematics & Computer Science	2%	2%
Physical Sciences	3%	3%
Psychology	2%	5%
Public Affairs & Services	4%	3%
Social Sciences	16%	19%
Theology	-	1%
No Response	1%	-
N = 760	100%	100%

Tables 2 and 3 provide additional characteristics. More will be said about age and sex later in the report.

TABLE 2 Age of Respondents

22 and below	33%	No data available on graduates by age.
23 - 24	36%	
25 - 26	12%	
27 - 28	7%	
29 - 30	4%	
31 - 60	8%	
N = 760	100%	

TABLE 3 Sex of Respondents

		Graduates Earning Bachelor's Degrees 1971-72
Female	39%	41%
Male	59%	59%
No Response	2%	-
N = 760	100%	100%

Factors Influencing Graduates' Decisions to Attend College

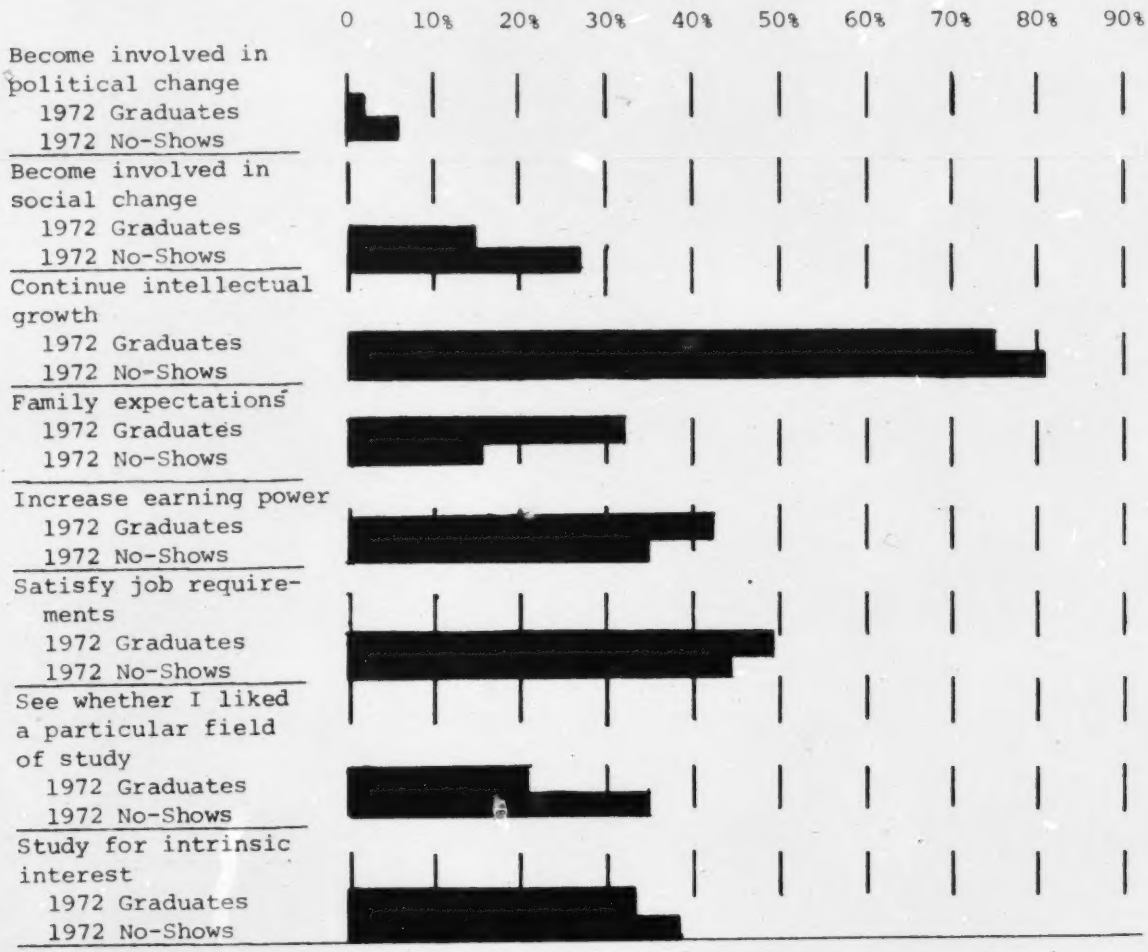
It may be useful to compare the importance of factors that initially influenced recent graduates to go to college and those persons who were or appeared to be "no-shows" in Fall, 1972. A similar series of factors were presented to respondents of the Council on Higher Education "No-Show Survey, Fall, 1972,"[1] and comparisons have been made between these two groups. No-shows are persons who applied and were admitted to a Washington college or university--often making a $50 prepayment deposit--but did not enroll.

[1] Council on Higher Education, "No-Show" Survey, Fall, 1972, Olympia, Washington, 1973.

It could be that some graduates have forgotten what factors influenced them to go to college, and how important those factors were to that decision. Table 4 makes it clear, however, that most persons, graduates and "no-shows"--who were most likely to be freshmen, believe their most important objective in going to college was to continue their intellectual growth. The opportunity to become involved in political change had the least influence on both groups. The greatest differences between the two groups appear to relate to changing attitudes. Students who first enrolled in college four or more years ago were more likely to be influenced in their decision by family expectations. They also were less likely to go for the purpose of testing their interest or aptitude in a particular field of study.

TABLE 4

Percent Indicating the Following to be "Very Important" Factors in Their Decisions to Go to College



The Graduate's College Career in Terms of Time to Completion, Institutions and Credit Earned

In order to gain a greater understanding of the need to consider the individual student when planning curricular programs, the graduates were asked several questions to determine how many of them "deviate from the norm" in terms of the time it takes to earn a degree, the number of institutions attended, and the amount of credit earned.

The data presented on Table 5 summarize the graduates' responses to the question, "When did you enroll for the first time?" Approximately 4 out of 10 completed his or her undergraduate degree program in the traditional four years; 5 out of 10 took between five and nine years to earn a bachelor's degree; and 1 out of 10 took ten or more years to complete a baccalaureate program. When these data are compared with Table 2, Age of Respondents, it becomes apparent that the graduates of 1972 enrolled in college for the first time shortly after finishing high school.

TABLE 5 — Enrolled for College Credit for the First Time

Year	Percent
1900-1939	2.0%
1940-1949	1.3%
1950-1955	1.3%
1956-1959	1.8%
1960-1962	4.9%
1963-1965	15.1%
1966-1967	31.8%
1968-1972	41.7%
N = 760	100%

As society has become more mobile, so have students. At one time it was commonly assumed that once a student enrolled in a college or university, he or she would graduate from that same institution. According to the data provided by the survey respondents, most students were enrolled in two institutions before they graduated (41 percent). About one-quarter of the respondents had been enrolled in three or more schools. As a result almost two-thirds of the graduates were enrolled in more than one school while completing degree requirements.

TABLE 6 — Number of Colleges and Universities in Which Enrolled for College Credit

Institutions	Percent of Students Enrolled
One	36.3%
Two	41.2%
Three	15.4%
Four	4.5%
Five	2.1%
Six or More	.3%
No Response	.3
N = 760	100%

Forty-two percent of all survey respondents indicated that they, at some point in their undergraduate careers, attended a community college. Of those that did the majority, 63 percent, earned the maximum number of transferable community college credits, completing their sophomore year before transferring to a four-year school.

TABLE 7 Community College Transfers - When They Transferred to a Four-Year Institution

	Number	Percent
During freshman year	17	5.4%
Between freshman & sophomore years	50	15.8%
During sophomore year	43	13.6%
Between sophomore & junior years	201	63.4%
"Miscellaneous" attendance	6	1.9%
N = 317	317	100%
Did not attend a community college	443	
Total	760	

Several comparisons were made between those graduates who attended a community college and those who did not. The following three tables provide data which illustrate some of the differences between these two groups of students.

The point in time at which a student declares the major for which he or she must fulfill graduation requirements appears to be subject to considerable

variation. As a group, the number of survey respondents deciding on a major increased each class year from freshman through junior. Very few graduates, about 6 percent, waited until their senior year before making a final decision as to their major.

Graduates who were enrolled in four-year institutions for the entire undergraduate degree program were most likely to declare the major for which they earned their degree during their sophomore year. Graduates who attended a community college, however, were most likely to wait until their junior year. Ninety-three percent of the respondents had declared their majors by their junior year. It is interesting to note that about one-quarter of all graduates chose and declared their graduation major during their freshman year.

TABLE 8	When Graduates Declared The Major For Which They Earned Their Degree					
Class Level	Attended A Community College		Did Not Attend A Community College		Total	
Freshman	78	24.6%	121	27.3%	199	26.2%
Sophomore	63	19.9%	158	35.7%	221	29.1%
Junior	158	49.8%	131	29.6%	289	38.0%
Senior	18	5.7%	29	6.6%	47	6.2%
No Response	-	-	4	.9%	4	.5%
	317	100%	443	100%	760	100%

Because community college transfer students tend to wait until they transfer to a four-year institution before they declare their major, it might be assumed that they would change majors less often. The data on Table 9 indicate this

is often true. Sixty-five percent of the graduates who attended a community college did not change their major once it was declared, compared to 44 percent of those who earned all college credit in four-year institutions.

It has been said that students change majors so often that it is not valid to track students by program intent. These data show that of this sample over 80 percent made no changes or one change only once a major had been chosen. Faced with these data new assumptions can be made regarding the validity of collecting enrollments by majors.

TABLE 9 Number of Times Graduates Changed Their Major

Number	Attended a Community College		Did Not Attend a Community College		Total	
No change	206	65.0%	195	44.0%	401	52.8%
One change	76	24.0%	141	31.8%	217	28.6%
Two changes	21	6.6%	35	7.9%	56	7.4%
Three changes	12	3.8%	14	3.2%	26	3.4%
Four changes	2	.6%	5	1.1%	7	.7%
Five changes	-	--	3	.7%	3	.4%
Six changes	-	--	1	.2%	1	.1%
No response	-	--	49	11.1%	49	6.5%
	317	100%	443	100%	760	100%

From Table 10 which provides data on the number of credits students earned before they graduated it can be seen that, for any of a number of reasons, few graduates earn only the 180 quarter credit minimum needed before a degree

can be conferred. It is statistically significant, however, that of those who earned more than 200 credits, a smaller proportion were from the group who had attended only a four-year institution: 24 percent compared to the 34 percent who also had been enrolled in a community college.

Table 10 Number of Credits Earned Before Graduation

Quarter Credits Earned	Attended a Community College		Did Not Attend a Community College		Total	
180 credit minimum	37	11.7%	66	14.9%	103	13.6%
181 - 190 credits	102	32.2%	161	36.3%	263	34.6%
191 - 199 credits	66	20.8%	102	23.0%	168	22.1%
200+ credits	109	34.4%	106	23.9%	215	28.3%
No response	3	1.0%	8	1.8%	11	1.5%
	317	100%	443	100%	760	100%

Learning Options

One purpose of the Graduate Information Study was to determine how many students take advantage of the educational alternatives available during their educational tenure. Table 11 provides a matrix which compares the kinds and numbers of learning experiences which students enjoyed other than regular classroom lecture-discussion. Forty-two percent of the respondents (319 of 760) indicated they had earned some credit through alternative methods. Internships, correspondence courses, and contracted learning experiences[2] provide the most often used methods for earning credit outside the classroom.

[2]A learning contract is similar to a contract for work. The student and faculty sponsor outline objectives to be reached and the techniques and resources that will be used in the process.

Table 11

Learning Alternatives for Credit

Educational Alternatives	Number of Learning Experiences				Total	
	One	Two	Three	Four	Number	Percent
Internships	34	25	7	3	69	16%
Correspondence Courses	36	17	6	3	62	15%
Learning by Contract	33	20	8	1	62	15%
Course Challenge	21	21	8	2	52	12%
Extension Courses	21	14	5	2	42	10%
Work/Study Program	22	10	4	-	36	9%
Credit for Military Experience	27	5	1	1	34	8%
Independent Study	21	5	3	-	29	7%
College Level Examination Program (CLEP)	16	8	1	-	25	6%
Experience as Volunteer or Tutor	4	1	-	-	5	1%
Study Abroad	3	-	-	-	3	1%
Credit for Competence Achieved Through Work or Life Experience	-	-	2	-	2	-
Total Learning Experiences	238	126	45	12	421	100%
Total Students Involved	238	63	15	3	319	
Percent of All Respondents	31%	8%	2%	-	42%	

Seventy-five percent of the graduates involved earned credit through only one non-traditional learning experience; 20 percent earned credit through two experiences. Only a small number took or were able to take advantage of three or more options.

Occupational Aspirations

Table 12 provides a comparison between the occupational aspirations of the graduates as freshmen and as seniors. As the students progressed from freshman to senior status, the size of the group indicating they had decided on a career increased from 73 percent to 86 percent of the respondents. While any of a number of factors may have had a bearing on these individual decisions, shifts which occurred in several areas are statistically significant at the 97 percent level: Biology, Business and Management, Communications, Education, Engineering, Fine Arts and Letters, Mathematics, and Public Affairs and Services. Because so many students are involved, it is particularly noteworthy that, as freshmen, almost one-quarter of the graduates aspired to become teachers; that increased to 30 percent by the time they were seniors.

Table 12

Occupational Aspirations as Freshmen and as Seniors

	Freshmen		Seniors	
	Number	Percent	Number	Percent
Agriculture and Natural Resources	23	3.0%	22	2.9%
Architecture and Environmental Design	8	1.1%	11	1.5%
Biology	13	1.7%	22	2.9%
Business and Management	65	8.6%	111	14.6%
Communications	9	1.2%	19	2.5%
Computer and Information Sciences	7	.9%	9	1.2%
Education	175	23.0%	234	30.8%
Engineering	72	9.5%	44	5.8%
Fine Arts and Letters	16	2.1%	6	.8%
Foreign Languages	2	.3%	1	.1%
Health Professions	42	5.5%	29	3.8%
Home Economics	9	1.2%	5	.7%
Law	11	1.5%	16	2.1%
Library Science	3	.4%	4	.5%
Mathematics	9	1.2%	1	.1%
Military Science	8	1.1%	15	2.0%
Physical Sciences	19	2.5%	13	1.7%
Psychology	8	1.1%	9	1.2%
Public Affairs and Services	27	3.6%	59	7.8%
Social Sciences	20	2.6%	15	2.0%
Theology	10	1.3%	10	1.3%
Total	556	73.1%	655	86.2%
Undecided or No Response	204	26.8%	105	13.8%
	760	100%	760	100%

In its report to the Council on Higher Education, the Select Commission on Non-Traditional Study strongly recommended the establishment of a network of information and guidance centers which provide personnel and resources to assist individuals in making decisions about their educational and career programs. Table 13 indicates that, while undergraduates, almost 70 percent of the respondents sought academic advice even though counselors are often institutional rather than client oriented, and 40 percent sought occupational counseling. These data alone demonstrate the need for such centers. If these same resources were accessible to each and every person who wanted educational and career information, the demand would be even greater.

TABLE 13 Respondents Who Sought Academic or Occupational Advice

	Number	Percent
Academic Advice	280	36.8%
Occupational Advice	59	7.8%
Both	247	32.5%
	586	77.1%
Did Not Seek Advice	168	22.1%
No Response	6	1.8%
	760	100%

Table 14 provides a comparison between what graduates felt was their primary activity (such as employment or continuing their education) six to twelve months after graduation, and their major field of study. Fifty-five percent of the respondents indicated they were working at either a military or civilian job outside the home. The data also indicate that one-quarter of the graduates did not choose a primary activity or interest from whatever they were doing, which suggests they considered their primary activity to be temporary. Table 15 seems to substantiate this assumption. While 75 percent of the graduates indicated what they were doing at the time they received the questionnaire, 80 percent indicated what they plan to do in the near future.

Together Tables 14 and 15 indicate that many persons who have earned a bachelor's degree believe they would benefit from additional course work and/or certification. A large number, 327 of the 760 respondents or 43 percent, are enrolled or plan to enroll in graduate school; 6 percent are enrolled or plan to enroll for vocational-technical training.

While there is no way to be sure in what fields graduates plan to continue their education, the data available indicate the persons who have earned a bachelor's in the health professions are most likely to be enrolled or want to enroll for postgraduate work. Persons who have earned a bachelor's in Business and Management appear to be among those at the other end of the spectrum.

TABLE 14

Primary Activities of Graduates Six-Twelve Months After Graduation

Field of Study	Work	Graduate School	Home-making	Looking For a Job	Military	Vocational Training	Other	Total Responses	No Response	Total by Major
Percent by Activity	52.2%	10.5%	4.1%	3.4%	2.5%	2.1%	.1%	75.0%	25.0%	100%
Agric. & Nat. Resources	7	2	1	2	-	-	-	12	4	16
Arts & Letters	37	9	1	1	1	5	-	54	23	77
Biological Sciences	5	6	3	2	4	2	-	22	10	32
Business & Management	70	7	2	4	4	-	-	87	36	123
Combined/Interdiscip.	18	3	1	1	-	-	-	23	6	28
Communications	4	-	-	-	-	-	-	4	3	7
Education	110	5	6	2	-	5	-	128	48	176
Engineering & Arch.	31	5	-	2	5	-	-	43	10	53
Health Professions	19	8	1	-	1	-	-	29	4	33
Home Economics	-	-	-	-	-	-	-	-	1	1
Math. & Computer Sci.	6	5	-	1	1	-	-	13	2	15
Physical Sciences	10	2	-	3	-	1	-	16	4	20
Psychology	4	4	1	-	-	-	-	9	3	12
Public Affairs & Serv.	18	5	2	1	1	-	-	27	5	32
Social Sciences	54	19	12	7	2	3	1	98	27	125
Theology	3	-	1	-	-	-	-	4	1	5
Did Not Indicate Major	1	-	-	-	-	-	-	1	3	4
Total by Activity	397	80	31	26	19	16	1	570	190	760

TABLE 15

What Graduates Plan to Do in the Near Future

Field of Study	Work*	Graduate School	Looking for a (Better) Job*	Vocational Training	Home-making	Military	Other	Total Responses	No Response	Total by Major
Percent by Activity	26.2%	32.5%	13.0%	4.0%	2.6%	1.2%	.8%	80.3%	19.7%	100%
Agric. & Nat. Resources	5	3	3	-	-	1	-	12	4	16
Arts & Letters	18	29	7	3	-	1	1	59	18	77
Biological Sciences	14	9	1	1	2	-	-	27	5	32
Business & Management	31	23	26	6	3	1	-	90	33	123
Combined/Interdiscip.	5	12	1	2	-	-	-	20	9	29
Communications	-	-	2	-	-	-	-	2	5	7
Education	41	66	25	3	7	2	5	149	27	176
Engineering & Arch.	11	21	5	4	1	-	-	42	11	53
Health Professions	8	13	2	3	2	1	-	29	4	33
Home Economics	-	1	2	-	-	-	-	3	2	5
Math. & Computer Sci.	7	4	3	1	-	-	-	15	-	15
Physical Sciences	7	6	1	-	-	1	-	15	5	20
Psychology	4	1	2	2	-	1	-	10	2	12
Public Affairs & Serv.	10	12	1	1	2	-	-	26	6	32
Social Sciences	38	45	18	4	3	1	-	109	16	125
Theology	-	1	-	-	-	-	-	1	-	1
Did Not Indicate Major	-	1	-	-	-	-	-	1	3	4
Total by Activity	199	247	99	30	20	9	6	610	150	760

*If the "work" category included those who plan to look for a better job, it would be the largest.

TABLE 16

ACTIVITIES OF GRADUATES BY SEX

	What Graduates are Doing Now*				What Graduates Plan To Do Next			
	Male		Female		Male		Female	
	No.	%	No.	%	No.	%	No.	%
Graduate School	59	13.2%	18	6.0%	139	31.1%	104	34.8%
Vocational-Technical Training	8	1.8%	8	2.7%	22	4.9%	8	2.7%
Military	18	4.0%	1	.3%	9	2.0%	-	-
Work	222	49.7%	169	56.5%	122	27.3%	74	24.8%
Look For A (Better) Job	16	3.6%	8	2.7%	55	12.3%	43	14.4%
Homemaking	2	.5%	29	9.7%	5	1.1%	15	5.0%
Other	-	-	1	.3%	-	-	6	2.0%
Responses	325	72.7%	234	78.3%	352	78.7%	250	83.6%
No Response	122	27.3%	65	21.7%	95	21.3%	49	16.4%
Total By Sex (Fourteen People Did Not Indicate Sex)	447	100%	299	100%	447	100%	299	100%

*At the time of survey: 6-12 months after graduation

CHE/March, 1974

Table 16 groups the respondents by sex and makes comparisons between the activities in which they were engaged at the time they received the questionnaire and what they planned to do next. With regard to what they were doing in the first instance, more women were working and fewer were enrolled in graduate school. In the future, that trend will be reversed: The data indicate that the percentage of women working at home or in the job market will decrease while, at the same time, there will be a large increase in the percentage of women enrolled in graduate school.

Relationships Between Educational Program and Employment

Table 17 provides a cross section comparison between the jobs at which graduates are employed full- or part-time and their occupational aspirations as seniors in college. Approximately three-quarters of the graduates who indicated their occupational aspirations are working (474 of 655). Three-quarters of that group found jobs in the career field desired (351 of 474). The net result is that 57 percent of all respondents are employed in occupational fields they considered desirable as seniors. It is also interesting to note that of the 105 persons who did not indicate any particular career interest as seniors, 65 were not employed.

Table 18 provides similar data except the comparison is between college major and field of employment. Fifty-seven percent of those who were working found jobs in fields related to their major field of study (270 of 474).

TABLE 17 - A Comparison of Occupational Aspirations as a Senior and Field of Employment

Occupational Field Desired as a Senior	Field of Employment																			Responses	No Response	Total by Field Desired
	Agric.& Nat.Resources	Arch.& Environ.Design	Biology	Business & Mgt.	Communications	Computer & Info.Sciences	Education	Engineering	Fine Arts & Letters	Health Professions	Home Economics	Library	Military Science	Physical Sciences	Psychology	Public Affairs & Services	Social Sciences	Theology				
Agric.& Nat. Resources	12	-	-	1	-	-	1	-	1	-	-	-	-	-	-	-	-	-		15	7	22
Arch.& Environ.Design	-	6	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-		7	4	11
Arts & Letters	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	7	7
Biological Sciences	1	-	5	-	-	-	-	-	-	1	-	-	2	-	-	-	-	-		9	13	22
Business & Management	1	-	-	72	-	-	-	1	-	-	-	-	1	-	-	3	-	-		78	33	111
Communications	-	-	-	2	8	-	1	1	1	-	-	-	-	-	-	2	-	-		15	4	19
Computer & Info. Sciences	-	-	-	1	-	3	1	-	-	-	-	-	-	-	-	-	-	-		5	4	9
Education	-	-	1	8	-	1	152	2	1	1	-	-	2	-	1	6	1	-		176	58	234
Engineering	-	-	-	-	-	-	1	34	-	-	-	-	2	-	-	-	-	-		37	7	44
Health Professions	-	-	-	-	-	-	-	-	-	18	-	-	1	-	-	-	-	-		19	10	29
Home Economics	-	-	-	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-		2	3	5
Law	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-		2	14	16
Library Science	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-		2	2	4
Mathematics	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-		1	-	1
Military Science	-	-	-	-	1	-	1	-	-	-	-	-	10	-	-	-	-	-		12	3	15
Physical Sciences	-	-	-	1	-	-	-	2	1	-	-	-	-	2	-	-	-	-		6	7	13
Psychology	-	-	-	2	-	-	2	-	-	-	-	-	1	-	1	1	-	-		7	2	9
Public Affairs & Services	-	-	-	1	-	-	5	-	-	3	-	-	-	-	-	17	2	-		28	31	59
Social Sciences	-	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-	3	-		5	10	15
Theology	-	-	-	1	-	-	-	-	-	-	-	-	1	-	-	1	-	5		8	2	10
Responses	14	6	6	92	10	4	165	41	5	23	1	2	20	2	2	30	6	5		434	221	655
No Response	1	1	-	16	-	-	4	1	4	2	-	1	-	1	-	5	3	1		40	65	105
Total	15	7	6	108	10	4	169	42	9	25	1	3	20	3	2	35	9	6		474	286	760

TABLE 18 - A Comparison of Major Field of Study and Field of Employment

Major Field of Study	Field of Employment: Agric.& Nat.Resources	Arch.& Environ.Design	Biological Sciences	Business & Mgt.	Communications	Computer & Info.Sci.	Education	Engineering	Fine Arts & Letters	Health Professions	Home Economics	Library Science	Military Science	Physical Sciences	Psychology	Public Affairs & Services	Social Sciences	Theology	Responses	No Response	Total by Major
Agric.& Natural Resources	11	-	-	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	13	3	16
Arts & Letters	-	-	-	7	3	-	15	-	4	-	-	2	1	-	1	5	1	2	41	36	77
Biological Sciences	1	-	5	-	-	-	1	-	1	2	-	-	2	-	-	-	-	-	12	20	32
Business & Management	1	1	-	69	-	1	1	2	-	-	-	-	6	-	-	3	-	1	85	38	123
Combined & Interdisciplinary	-	1	-	3	-	-	11	3	-	-	-	-	1	-	-	1	1	-	21	8	29
Communications	-	-	-	1	5	-	-	-	1	-	-	-	-	-	-	-	-	-	7	-	7
Education	1	-	-	5	-	1	111	2	1	1	-	1	-	-	1	5	-	1	130	46	176
Engineering, Architecture & Environmental Design	-	4	-	-	1	1	2	29	-	-	-	-	4	-	-	-	-	-	41	12	53
Health Professions	1	-	-	2	-	-	-	1	-	17	-	-	1	-	-	-	-	-	22	11	33
Home Economics	-	-	-	1	-	-	2	-	-	-	1	-	-	-	-	-	-	-	4	1	5
Mathematics & Computer Sciences	-	-	-	3	-	1	2	1	-	-	-	-	1	-	-	-	-	1	9	6	15
Physical Sciences	-	-	-	1	-	-	3	4	1	-	-	-	-	3	-	-	-	-	12	8	20
Psychology	-	-	-	1	-	-	2	-	1	1	-	-	-	-	-	2	-	-	7	5	12
Public Affairs & Services	-	1	-	3	-	-	4	-	-	1	-	-	-	-	-	4	1	-	14	18	32
Social Sciences	-	-	1	11	1	-	14	-	-	3	-	-	4	-	-	13	6	1	54	71	125
Theology	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Responses	15	7	6	108	10	4	169	42	9	25	1	3	20	3	2	33	9	6	472	284	756
No Response	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	2	2	4
Total	15	7	6	108	10	4	169	42	9	25	1	3	20	3	2	35	9	6	474	286	760

Although a student chooses to major in a particular field in college, it cannot be assumed that person will seek a job related to that field after graduation. While 35.5 percent of all respondents are employed in jobs relating to their major, 57 percent are employed in jobs relating to their career aspirations as seniors.

An examination of Table 19 may provide some insights into the differences between a student's major and his or her occupational aspirations. According to a study by John Folger, Helen Astin and Alan Bayer, "there is a great deal of shifting of career plans during the college years, and some shifting between the baccalaureate and graduate school entry, but these shifts seem to be less determined by market forces and the demand for graduates than they are by the efforts of students to select careers that are congruent with their interests and aptitudes."[3]

It can be seen, for example, that although some 176 respondents majored in Education, 234 hoped to find employment in that field. Conversely, 77 respondents majored in Arts and Letters but only 7 persons planned to seek a career they believed relates to that major; and of the 125 respondents majoring in Social Sciences, 15 had chosen a career that could be identified with that major.

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[3]John Folger, Helen Astin and Alan Bayer, Human Resources and Higher Education (New York: Russell Sage Foundation, 1970), p. 12.

TABLE 19 — A Comparison of College Major and Career Aspirations as a Senior

	Major		Aspirations	
Agric.& Nat.Resources	16	2.1%	22	2.9%
Arts & Letters	77	10.1%	7	.9%
Biological Sciences	32	4.2%	22	2.9%
Business & Management	123	16.2%	111	14.6%
Combined & Interdisciplinary	29	3.8%	--	--
Communications	7	.9%	19	2.5%
Education	176	23.2%	234	30.8%
Engineering, Architecture & Environmental Design	53	7.0%	55	7.2%
Health Professions	33	4.3%	29	3.8%
Home Economics	5	.7%	5	.7%
Law	--	--	16	2.1%
Library Science	--	--	4	.5%
Mathematics & Computer Sci.	15	2.0%	10	1.3%
Military Science	--	--	15	2.0%
Physical Sciences	20	2.6%	13	1.7%
Psychology	12	1.6%	9	1.2%
Public Affairs & Services	32	4.2%	59	7.8%
Social Sciences	125	16.4%	15	2.0%
Theology	1	.1%	10	1.3%
Responses	756	99.5%	655	86.2%
No Response	4	.5%	105	13.8%
Total	760	100%	760	100%

Two hundred thirty-six of the 474 respondents who are employed believe their major and their jobs are not related (see Table 20). When asked the primary reason they did not find a job related to their undergraduate degree program, more than half (57 percent) indicated they were unable to. The numbers of respondents who gave other reasons are small by comparison. The next largest group (9.8 percent) indicated they felt unprepared to take a job that related to their major, and another 8.1 percent took a job with shorter working hours. The proportions of graduates who gave reasons for not finding a job relating to their major were highest in the Physical Sciences, Arts and Letters, and Public Affairs and Services.

Those who were employed in a position which related to their educational program were asked to indicate whether the courses they took as undergraduates prepared them for employment. Since more persons responded to the question than were employed, the following data consist of the responses of all graduates, whether employed or not (Tables 21 and 22).

Comparisons were made between 1) field of study and adequacy of education, and 2) age and adequacy of education. More than half of the graduates preferred not to judge their education on the basis of a few months' experience in the "real" world: 51.4 percent indicated "no opinion." Forty percent indicated they believe their education adequately prepared them for employment, and 9 percent believe it did not. More than half of those who majored in Agriculture and Natural Resources, Education, and Engineering--rather specific occupational fields--believed they were adequately prepared.

TABLE 20

Reasons For Not Finding a Job in Major Field

	Could Not	Better Pay	More Security	Shorter Hours	Work More Meaningful	Better Future Prospects	Military Obligation	Not Prepared	TOTAL RESPONSES	NO RESPONSE	TOTAL GRADUATES BY MAJOR
Agric./Nat. Resources	1	-	-	-	-	-	-	-	1	15	16
Arts & Letters	18	2	1	3	1	3	1	6	35	42	77
Biological Sciences	8	-	-	2	1	-	2	-	13	19	32
Business & Management	18	2	4	1	3	2	2	2	34	89	123
Combined/Interdiscip.	6	1	-	-	-	1	-	1	9	20	29
Communications	-	-	-	-	-	-	-	1	1	6	7
Education	26	1	1	4	5	1	-	2	40	136	176
Engineering	4	-	-	-	1	-	3	1	9	44	53
Health Professions	2	2	-	-	2	-	1	1	8	25	33
Home Economics	1	-	-	-	-	-	-	-	1	4	5
Math/Computer Sci.	-	1	-	1	-	-	1	1	4	11	15
Physical Sciences	8	-	1	1	-	-	-	-	10	10	20
Psychology	1	-	1	-	1	-	-	-	3	9	12
Public Affairs/Services	11	2	-	-	-	-	-	2	15	17	32
Social Sciences	31	2	1	7	2	1	2	6	52	73	125
Theology	-	1	-	-	-	-	-	-	1	-	1
No Response	-	-	-	-	-	-	-	-	-	4	4
TOTAL	135	14	9	19	16	8	12	23	236	524	760
Total By Those Who Indicated Reasons	57.2%	5.9%	3.8%	8.1%	6.8%	3.4%	5.1%	9.8%	100%	-	-

TABLE 21 A Comparison of Graduates by Field of Study and Opinion of Education as Adequate Preparation for Employment

Field of Study	Total Graduates	Education Adequate	Education Inadequate	No Opinion
Agric./Nat.Resources	16	9	3	4
Arts & Letters	77	21	3	53
Biological Sciences	32	9	4	19
Business & Management	123	59	7	57
Combined/Interdiscip.	29	13	5	11
Communications	7	3	3	1
Education	176	95	19	62
Engineering	53	31	6	16
Health Professions	33	15	1	17
Home Economics	5	3	-	2
Math/Computer Sciences	15	5	3	7
Physical Sciences	20	5	2	13
Psychology	12	2	1	9
Public Affairs/Services	32	6	2	24
Social Sciences	125	25	9	91
Theology	1	-	-	1
No Response	4	-	-	4
Total	760	301	68	391
Percentage by Response	100%	39.6%	9.0%	51.4%

The data on Table 21 show that more than half of those who majored in Agriculture and Natural Resources, Education, and Engineering believe the courses they took as an undergraduate prepared them for a job. Those who majored in Arts and Letters, the Social Sciences or Public Affairs and Services were most likely to have no opinion.

No significant trends are apparent when comparing age and the respondents' opinions about the adequacy of their undergraduate programs as preparation for employment; however, as the age of the respondents increased, there was a slightly greater tendency for the graduates to judge their education as adequate. "No opinion" responses were again in the majority except at the 29-30 age level; 16 of the 30 respondents in the 29-30 age group believe their undergraduate programs adequately prepared them for employment.

Table 22 — A Comparison of Graduates by Age and Opinion of Education as Adequate Preparation for Employment

Age Groups	Total Graduates	Education Adequate	Education Inadequate	No Opinion
22 and below	253	97	22	134
23 - 24	272	97	25	150
25 - 26	89	37	13	39
27 - 28	54	26	1	27
29 - 30	30	16	2	12
31 and above	61	28	5	28
No Response	1	-	-	1
Total	760	301	68	391
Percentage by Response	100%	39.6%	9.0%	51.4%

The respondents were asked to indicate their home state both at the time of graduation and the time of the survey (see Table 23). While no data are available with which to compare the emigration rate of residents graduating from the colleges and universities in other states, about 15 percent of Washington's resident graduates responding to the question indicated they became residents of states other than Washington after graduation. Oregon, California, and Texas were the beneficiaries of a significant number of respondents; however, one or two Washington residents went to almost every state in the Union after graduation.

Sixty-four respondents indicated they were nonresidents while enrolled in one of Washington's public or private colleges or universities in 1972. A similar number (61) indicated that they remained nonresidents after graduation. Only four states had fewer residents return to their homestate after graduation than were enrolled: Hawaii, Kentucky, Mississippi, and Montana.

Briefly, 92 percent of the survey respondents indicated their states of residence as follows:

	At Time of Graduation	After Graduation
Washington	641	542
Other States	64	160
No Response	55	58
Total	760	760

TABLE 23 A Comparison of State of Residence at Time of Graduation and at Time of Survey

State	At Graduation	At Time of Survey
Alabama	-	-
Alaska	4	7
Arizona	1	2
Arkansas	-	-
California	14	33
Colorado	-	3
Connecticut	1	2
Delaware	-	-
Florida	1	4
Georgia	-	1
Hawaii	7	5
Idaho	4	8
Illinois	1	3
Indiana	-	-
Iowa	1	2
Kansas	-	1
Kentucky	1	-
Louisiana	1	2
Maine	-	-
Maryland	1	2
Massachusetts	-	1
Michigan	1	4
Minnesota	1	2
Mississippi	1	-
Missouri	1	2
Montana	6	4
Nebraska	1	1
Nevada	-	-
New Hampshire	-	1
New Jersey	-	-
New Mexico	-	1
New York	1	2
North Carolina	-	1
North Dakota	-	1
Ohio	1	2
Oklahoma	-	1
Oregon	10	36
Pennsylvania	1	5
Rhode Island	-	1
South Carolina	-	-
South Dakota	-	-
Tennessee	-	1
Texas	1	9
Utah	-	2
Vermont	-	-
Virginia	-	1
Washington	641	542
West Virginia	-	-
Wisconsin	-	2
Wyoming	-	1
Foreign Countries	2	4
No Response	55	58
Total	760	760

TABLE 24 Primary Factor for Making or Continuing to Make State of Washington Home

Factor	Number	Percent
Educational opportunities	28	5.2%
Family ties	204	37.6%
Geography	160	29.5%
Employment opportunities	58	10.7%
Recreation - Culture	48	8.9%
No particular reason	7	1.3%
Have always lived here	3	.6
Responses	508	93.8%
No Response	34	6.3%
Total indicating Washington to be State of residence after graduation	542	100%

TABLE 25 Primary Factor for Making or Continuing to Make Home Outside of Washington After Graduation

Factor	Number	Percent
Educational opportunities	14	8.8%
Family ties	26	16.3%
Geography	15	9.4%
Employment opportunities	65	40.6%
Recreation - Culture	8	5.0%
Military	2	1.3%
Responses	130	81.3%
No Response	30	18.8%
Total indicating States other than Washington to be State of Residence	160	100%

Tables 24 and 25 compare the reasons graduates gave for making their home in a particular state after graduation. The Northwest is reputed to be a desirable place to live and the responses tend to corroborate that theory. The two primary reasons given by those who chose to live in Washington are they have family here or they like the state's geography. Those who chose to live in another state did so primarily because of employment opportunities or family ties; however, 20 percent of the non-residents did not indicate a reason. It is interesting to note that 10 percent of the respondents who chose to live in Washington after graduation indicated that the deciding factor was employment opportunities; 40 percent of those who went to another state did so.

Respondents who made their home in Washington after graduation were asked to indicate whether attending a Washington college or university influenced their decision to live here. Almost 30 percent of those who responded said "Yes."

TABLE 26 Attending a Washington College or University Influenced Decision to Live Here

	Number	Percent
Yes	163	28.9%
No	401	71.1%
Responses	564	100%
No Response or Residents of Other States	196	
Total	760	

Persons who made their home outside of Washington were asked to indicate whether they had any plans to return. More than 90 percent said they did.

TABLE 27 — Plans of Nonresidents for Returning to Washington

	Number	Percent
To live	85	43.4%
To visit	97	49.5%
Don't plan to return	14	7.1%
Responses	196	100%
No Response or Washington Residents	564	
Total	760	

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TC

SUMMARY OF MAJOR FINDINGS

1. The vast majority of graduates believe their most important objective in going to college was to continue to learn. The second most important objective cited was to satisfy job requirements.

2. Almost 60 percent of all graduates took longer than four years to earn their baccalaureate degree.

3. Sixty-four percent of all graduates had been enrolled in two or more colleges and universities before receiving their degree.

4. Forty-two percent of all graduates attended a community college, with almost two-thirds completing their sophomore year before transferring to a four-year school.

5. More than half of all graduates did not change their major, once declared. One-quarter of all graduates declared the major for which they earned their degree during their freshman year.

6. Twenty-four percent of the graduates who had been enrolled only in four-year institutions earned 200 or more quarter hour credits before receiving their degree. Thirty-four percent of the graduates who attended a community college did so.

7. Forty-two percent of the graduates received some credit for learning experiences other than regular classroom instruction.

8. As freshmen, 23 percent of all graduates aspired to become teachers; that portion increased to 30 percent by the time they were seniors.

9. A full 40 percent of all respondents sought occupational advice while enrolled as undergraduates.

10. At the time of the survey, six to twelve months after the graduates received their baccalaureate, 1 out of 10 were enrolled in graduate school and an additional 3 out of 10 said they planned to enroll.

11. Fifty-seven percent of all respondents were employed in occupational fields they considered desirable as seniors. But when the same jobs are compared to college majors, there is only a 35 percent match-up.

12. Of the 236 persons who did not find jobs relating to their college major, more than half said they could not find related employment.

13. When asked whether they believed their undergraduate program prepared them for employment, more than half preferred not to make a judgement so soon after graduation.

14. About 15 percent of Washington's resident graduates became residents of states other than Washington after graduation. (There are no data from other states with which to compare this emigration rate.)

15. Of the respondents who chose Washington as a place to live after graduation, 87 percent did so primarily because of family ties or the desirable geography of the state. More than 40 percent of the graduates who chose to live in a state other than Washington did so because of employment opportunities.

16. Ninety percent of those who became residents of other states after graduation have plans to return to Washington to visit or to live.

APPENDIX A

The following are some of the comments and criticisms of the system of higher education made by respondents to the Graduate Survey. They demonstrate that graduates <u>are</u> concerned about the quality of their undergraduate learning experiences.

"An entering college student should have access to projected figures for job possibilities, pay scales, and opportunities for advancement in particular fields."

"Not enough information as to the availability of jobs in specific areas of study is provided to students before they choose their majors."

"I find myself unskilled and unwanted after four years of college, graduating magna cum laude, Phi Beta Kappa, etc. I am reminded that I chose to have a classical education and not job training. I did not realize how completely unpractical my education was until the job hunt began."

"I have spent eight years in and out of college trying to get a degree. I worked, borrowed money and lived hand-to-mouth while attending, yet I graduated with a 3.6 cumulative g.p.a. for my last 110 credit hours of college. For all this I ended up working in an office at a job for which I had no previous training. All my academic endeavors were just that when it came to earning a living--purely academic."

"My personal view is that education, as have so many American institutions, has become overly commercialized. Many who attend college do so for lack of anything else to do. Education is a tool, to be sure, but it is an art as well--one which should not expire upon commencement."

"In contrast to the [four-year institution] the instruction at the community college was by professional teachers, not researchers or teaching assistants."

"Courses required by the various departments are geared to producing more academicians and fewer practitioners."

"Many courses serve little or no practical purpose. All students should be given basic courses in mechanics, carpentry, electrial wiring, painting, home economics, etc."

"While going through college I often wondered about the required courses, taking a class just so I could graduate. I can see the reasoning behind the philosophy of a well-rounded education but, in some instances, I didn't have a chance to take what I wanted, just what was offered that particular quarter."

"Courses should present the student with actual business situations or simulated situations."

"Every student should spend some time in the field before graduation."

"More emphasis should be on discussion methods and less on lecture methods. Development of critical thinking should take priority over memorization."

"My education prepared me to teach ONLY because I participated in the ... Intern Program."

"The major failure in my education was the lack of courses in how to handle personal and psychological problems of high school students."

"More sound education courses need to be developed in the areas of discipline and coping with emotional problems in the school systems."

"I attribute my success in obtaining a full-time job to my internship for teaching while in school. Such intern programs should be extended to other colleges besides that of Education."

"I believe that college Education professors who are now merely observing, should be required to <u>teach</u> in a public school at least 1 year out of every 5."

"Future teachers should be given more classes involving observation. I learned twice as much seeing methods used in a classroom than I did reading a book."

"I suggest that student volunteers act as counselors in return for credit. Thus, students can meet and talk with other students in their field who have first-hand knowledge of particular courses."

"My Economic courses have proved to be of the most value as far as my understanding how the real world operates."

"General university requirements should be eliminated. Students should be given the option to take additional courses in their selected fields."

"I would like to see education adopt the primary goals of teaching persons to respond to discipline. The academic climate of this college is changing; I actually know several people who are here because they enjoy it!"

"My main criticism of college courses is that there is no practical experience, or a very limited amount at best, which leaves the graduate with only theory."

"I wish someone had caused me to seriously consider the alternatives to college."